

**RESPONSE TO COMMENTS
DRAFT REMOVAL ACTION WORK PLAN
SITE 5 WASTE/BURNT SOIL AREA
ST. JULIENS CREEK ANNEX
CHESAPEAKE, VIRGINIA**

VDEQ Comments

Comment 1 Page 2-1, second bullet – replace “bunt” with “burnt”

Response The revision will be made as requested.

Comment 2 Page 2-1, third and fourth bullet – these bullets are missing periods.

Response The revision will be made as requested.

Comment 3 Page 3-1, Section 3.1.1 – last sentence is a duplicate of the fourth to last sentence.

Response The last sentence will be deleted.

Comment 4 Page 3-8, Section 3.8.1 – second paragraph, second sentence – replace “One” with “Once”.

Response The revision will be made as requested.

Comment 5 Appendix E, Page 3, second to last sentence – Adjacent to what?

Response The text will be revised to say “Adjacent to the emergent wetland/tree/shrub transitional area, another transitional area....”.

Comment 6 Appendix F, add page numbers.

Response The revision will be made as requested.

Comment 7 Page 3-8, Section 3.8.1, second paragraph and Appendix E, Page 3, last paragraph – it states that the excavation area will be backfilled with topsoil – is organic matter needed to support the wetland zone plantings?

Response Additional requirements for the topsoil will be added to the text. The topsoil will be native or amended material with an organic salt concentration of less than 500 parts per million, organic content at a minimum of 1.5 percent, and a pH of 6 to 7.5.

Comment 8 Page 3-8, Section 3.8.1, second paragraph, last sentence – precautions should be taken to minimize compaction in the wetland planting zones, thereby increasing the chance of mitigation wetland success.

Response Comment noted. The text will be revised to incorporate the request.

Comment 9 Appendix E, Page 4, under the heading “Erosion and Sediment Control Measures”, first sentence – erosion and sediment controls should be installed prior to all removal action activities, not during removal action activities – please correct in text.

Response Installation of the erosion and sediment control measures is considered to be a portion of the overall removal action. Therefore, the text will be revised to indicate the erosion and sediment controls will be installed prior to intrusive activities.

Comment 10 Appendix F, last page – the Mitigation Monitoring and Maintenance Plan should be developed and approved by the SJCA partnering team – please add this to text.

Response The Mitigation Monitoring and Maintenance Plan provides the approach for the monitoring and maintenance of the compensatory mitigation wetland. As discussed during previous meetings, the monitoring plan will consist of 2 years of monitoring and the plan will not include any invasive species (e.g., phragmites) removal. Additional details regarding the success criteria and observations will be added to this section, see response to EPA Comment #16.

EPA Comments

Comment 1 Erosion and Sediment Control Plan, Scope of Work, 1st paragraph. Two spaces are needed b/w the 4th and 5th sentences.

Response The revision will be made as requested.

Comment 2 Erosion and Sediment Control Plan, Scope of Work, 1st paragraph, 6th sentence. Please change the beginning of the sentence to read, "Around the emergent wetland..."

Response Based on the response to VDEQ comment 5, the sentence will be revised to read, "Adjacent to the emergent wetland/tree/shrub transitional area, another transitional area will be created by planting of wetland shrubs and trees, such as red maple, and seeding with an upland grass/wildflower mixture."

Comment 3 Erosion and Sediment Control Plan, Scope of Work, 1st paragraph, last sentence. Please change the end of the sentence to read, "...area will eventually become dominated by phragmites."

Response The revision will be made as requested.

Comment 4 Erosion and Sediment Control Plan, Erosion and Sediment Control Measures, 4th paragraph, 1st sentence. Please change the sentence to read, "...not to affect the surrounding site due..."

Response The revision will be made as requested.

Comment 5 Erosion and Sediment Control Plan, Erosion and Sediment Control Measures, 4th paragraph, 2nd sentence. Please change the beginning of the sentence to read, "The silt fence..."

Response The sentence will be changed to read, "Silt fence is the only erosion and sediment control feature employed downgradient of the disturbed areas to prevent sediment runoff to surrounding areas."

Comment 6 Compensatory Mitigation Plan, Background, 4th sentence. The sentence states that the removal action is planned to be conducted over the next 5

years, please correct this as the timeframe is on the order of the next 5 months.

Response *At the time the compensatory mitigation plan was drafted, it was not known when funding would be available to complete the removal action. It will be revised to reflect that the estimated time frame is 2 years. Although it is anticipated that the removal action will be completed within a year, due to the nature of the site and the potential for discovering MEC at the site the time frame will be extended to allow for impediments related to MEC, such as the ESS submittal process, slowed production, and other MEC-related issues.*

Comment 7 **Compensatory Mitigation Plan, Compensatory Mitigation, 2nd paragraph, 3rd sentence. Please change the sentence to read, "...to be present that connects Wetlands 1 and 3..."**

Response *The revision will be made as requested.*

Comment 8 **Compensatory Mitigation Plan, Compensatory Mitigation, 6th paragraph, 1st sentence. Please change the sentence to read, "Because the area where the culvert is believed..."**

Response *The revision will be made as requested.*

Comment 9 **Compensatory Mitigation Plan, Goose deterrents, 2nd paragraph, 2nd sentence. "through" is misspelled.**

Response *The spelling will be corrected.*

Comment 10 **Compensatory Mitigation Plan, Monitoring and Maintenance, second sentence. Please insert a comma between "mice" and "burrowing."**

Response *The revision will be made as requested.*

Comment 11 **Previous discussions involving the removal action at Site 5 included potential use of the site by the Virginia Port Authority as a mitigation site for the expansion of Craney Island. The intended mitigation would be for tidal wetlands. The report should provide a summary and update, if any, of these discussions. If it is anticipated that further excavation to construct tidal wetlands at the site will occur, then the revegetation plan need only include the emergent and upland seed mix. If it is not anticipated that further excavation will occur, the specific comments included below regarding revegetation of the site must be addressed. The Navy should also consider spraying the Phragmites adjacent to the restoration areas if no further excavation is anticipated in order to allow for successful establishment of the species in the seed mixes. If the Navy Installation Restoration (IR) Program is concerned with inherent costs associated with committing to longer-term wetland monitoring and management activities, e.g. phragmites suppression, it may be possible to transfer these responsibilities, after the initial 2 years, to the Navy's Natural Resources Trustee as was done for NAB Little Creek's Site 8.**

Response *The purpose of the removal action work plan is to describe the means and methods for completing the removal action. The status of the Virginia Port Authority*

consideration of the site for compensatory mitigation is unknown. As indicated in the response to comments on the EE/CA:

“The ACOE, in conjunction with the VPA, submitted a letter on September 9, 2005 indicating their consideration for use of the Blows Creek area of SJCA as compensatory mitigation for their Craney Island expansion project. The Commander Navy Region Mid Atlantic is considering the approach. The removal action proposed in the Site 5 EE/CA is anticipated to make the site a more viable area for compensatory mitigation while still meeting the goals of the SJCA Partnering Team for Remedy In Place and Response Complete. Since there have been no official agreements made with regard to the compensatory mitigation proposal, the team decided that the Site 5 EE/CA should be independent from the objectives of the scoping goals. As such, the scoping meeting that was held will not be mentioned in this EE/CA. However, consideration was made in the EE/CA alternatives that were evaluated to meet the requirements of the CERCLA program while creating a viable compensatory mitigation site.”

The removal action scope is based on the alternative selected in the EE/CA, and is therefore independent of the VPA.

Regarding the eradication of phragmites, also as indicated in the response to comments on the EE/CA (and included within the Final EE/CA):

“Although establishment of the native wetland species to the restored area is desired, this removal action is addressing only a small portion of the existing wetland, which is dominated by phragmites, and it is acknowledged that because phragmites is a hearty invasive species it may overtake the restored areas. Because of the uncertainty in the type of wetland that can be supported at Site 5 (see Appendix E of the EE/CA for the wetland feasibility analysis) based on the surface water and groundwater evaluations, use of an herbicide to eradicate the phragmites in adjacent wetlands is not advised. The Navy is not planning to claim wetland credit or use this site as compensatory mitigation (beyond re-establishing the small area impacted by this removal action) at this time. Therefore, the type of vegetation that establishes dominance within the wetland is not applicable. By seeding the excavated area with bulrush and cattail as planned in the recommended alternative, and from the standing water created by the lower created elevation, there is a chance that phragmites invasion may be naturally prevented. However, even if phragmites invades, there will still be added ecological benefit from the phragmites wetland.”

Comment 12 Section 3.8.2 discusses the establishment of vegetation following completion of the removal action. There is additional information presented in Tables 1 and 2 in the Wetland Mitigation Plan in Appendix F. BTAG recommends the following changes and additions to the planting plan:

- **Planting Zone B: add black willow (*Salix nigra*) and buttonbush (*Cephalanthus occidentalis*). This will provide additional diversity to the wetland.**

Response The additions of black willow (*Salix nigra*) and buttonbush (*Cephalanthus occidentalis*) will be made to the restoration planting plan.

- **Planting Zone C:** add green ash (*Fraxinus pennsylvanica*), willow oak (*Quercus phellos*), and sycamore (*Platanus occidentalis*). These are all fast growing and will add additional diversity to the wetland.

Response *The additions of green ash (*Fraxinus pennsylvanica*), willow oak (*Quercus phellos*), and sycamore (*Platanus occidentalis*) will be made to the restoration planting plan.*

- **In those areas of Zone A that have standing water and cannot be seeded with the wetland seed mix, plugs of the following species should be planted on 2 foot centers:** lesser bur-reed (*Sparganium americanum*) and blueflag iris (*Iris versicolor*) in areas with up to 6 inches of standing water, arrow arum (*Peltandra virginica*) and pickerelweed (*Pontederia cordata*) in areas with up to 1 foot of standing water, duck potato (*Sagittaria latifolia*) in areas with up to 2 feet of standing water, and spatterdock (*Nuphar lutea*) in areas with 1 to 3 feet of standing water.

Response *Due to the variability of the groundwater level at the site and the unknown excavation depths, a planting plan that is dependent on surface water depth is not advisable. The current wetland restoration document states "The impacted emergent wetlands (Zone A) will be seeded with an emergent wetland seed mix if no standing water is present (Table 2). If the excavation results in standing water in Zone A, wetland plugs would be installed within the planting area." Wetland plugs of the above listed species will be considered and planted if the extent of excavation and surface water hydrology is present during the construction period.*

Comment 13 **Section 3.8.2 discusses the establishment of vegetation following completion of the removal action. The upland seed mix provided in Table 3-1 is acceptable as this is the mix provided previously by BTAG. However, this seed mix should only be planted in the non-wetland portions of the site (Zone D). This mix is different than the one shown in Table 3 of the Wetland Mitigation Plan in Appendix F, and should be changed to reflect the mix found in Table 3-1 of the main report. If the Navy wants pre-mixed seed instead, suitable mixes are commercially available.**

Response *The upland seed mix provided in Table 3-1 will be used, and replace the mix provided in Table 3 of Appendix F.*

Comment 14 **The Wetland Mitigation Plan in Appendix F states that an emergent wetland seed mix will be planted in Zones A and B. A wetland seed mix should also be planted in Zone C, instead of the upland seed mix as proposed. Instead of the wetland seed mix found in Table 2 of the Wetland Mitigation Plan, BTAG recommends that the Navy purchase seed mixes available from seed companies. These prepared seed mixes have much higher diversity than what is listed in Table 2. In addition, seed mixtures are available that are specific to the type of wetland being restored. BTAG recommends that an OBL wetland mix be used in Zones A**

and B, and a specialized wetland mix for shaded OBL-FACW areas be used in Zone C. Recommended seeding rates are 15 pounds per acre, which is much less than 100 pounds per acre specified in Table 2.

Response Table 2 has been revised to include a higher diversity of wetlands species that would flourish at the Site 5 wetland site.

As hydrology of Site 5 is variable and Zone C is currently comprised of upland species it is not advisable to modify the wetland restoration plan to include OBL-FACW wetland mix. Zone C is presently an open grass field and although trees/shrubs will be added no shade would be provided due to the lack of tree/shrub maturity. Additionally, the restoration area borders are approximate and will be revised based on actual extent of excavation. Seeding location will be modified based on site conditions after the excavation has occurred; areas that exhibit more upland characteristics will receive the upland seed mix (Table 3), while those areas that exhibit wetland characteristics will receive the wetland seed mix (Table 2).

Comment 15 The Wetland Mitigation Plan in Appendix F provides information on the transportation, storage and planting methods of trees and shrubs. The time of year when these plants would be planted is not provided. BTAG recommends that trees and shrubs be planted between October and April, preferable when soil is moist. Planting outside of this period (late spring/summer) or during drought could result in significant mortality. If planting must be done during the summer months, it should only consist of a cover/nurse crop. The species and seed mixes described in the mitigation plan should only be planted at the appropriate time.

Response Detail regarding the time of year when planting may occur will be added to the text.

Comment 16 The Wetland Mitigation Plan in Appendix F provides a short summary of the monitoring and maintenance of the wetland. The section states that there will be two years of monitoring. Two years may not be sufficient. Specific success criteria should be developed and monitoring should continue until success criteria have been achieved. A wetland monitoring plan should be developed that presents specific success criteria that need to be met. The section states that monitoring will verify that sufficient vegetation has been established (i.e., 85% coverage). This criteria is not appropriate for trees and shrubs. For woody vegetation, percent survival of planted material should be presented.

Response The compensatory mitigation plan has been revised and states "Mitigation monitoring and maintenance will include 2 years of monitoring and maintenance of the site. Monitoring will verify that sufficient vegetation has been established (i.e., 85% coverage). Vegetative monitoring data will be collected within Zones A and B after the first growing season following the planting of the site (Year 1). The vegetative monitoring will be conducted by using the following protocols.

- A minimum of three monitoring stations will be surveyed at representative locations within each of the planting zones.

- Fixed one-meter square quadrants will be utilized to assess percent cover and species composition.
- Native and non-native or nuisance plant species will be listed and their percent cover will be quantified.
- Observations of wildlife occurrence and use will be noted during each site visit.

In addition, tree and shrubs will be monitored to determine survival percentages within Zones B and C. Percent survival will be assessed by recording the number of live and dead shrubs within each zone. Observations of natural recruits or invasion by undesirable non-native species shall also be noted

Maintenance will include implementation of nuisance wildlife control, including waterfowl and rodents (prevent tree/shrub girding by mice, burrowing muskrats and nutria). No invasive plant (e.g., phragmites) removal will be conducted, as agreed to by the SJCA Tier I Partnering Team during the resolution of comments on the EE/CA, see response to EPA Comment #11.

EPA Follow-up Comments

Comment 1 Re: Comment #14, response states that Table 2 has been revised, can you please provide. Please ensure that only species native to Virginia are used.

Also, we still recommend the used of Shade OBL-FACW seed mixes available from a commercial vendor. There are mixes available that can tolerate full sun while trees are small. The advantage to this type of seed mix is that the species are tolerant of shade and will persist even once the trees mature and the canopy closes. Many wetland seed mixes only contain species that will grow in full sun that will die out as the canopy closes.

The wetland and seed mixes should be overlapped together in transitional areas. This will allow the plants to work out where they will grow.

Please specifically address the BTAG comment regarding the seeding rate.

Response Table 2 is provided and contains species that are native to Virginia:

Table 2		
Emergent Wetland Seed Mix		
Common name	Scientific Name	Percent
Fox Sedge	<i>Carex vulpinoidea</i>	25
Lurid (Shallow) Sedge	<i>Carex lurida</i>	10
Blunt Broom Sedge	<i>Carex scoparia</i>	10
Fowl Mannagrass	<i>Glyceria striata</i> , PA Ecotype	8
Soft Rush	<i>Juncus effusus</i>	7
Eastern Lesser Bur Reed	<i>Sparganium americanum</i>	6
Nodding Bur Marigold	<i>Bidens Cernua</i>	6
Cosmos (Bristly) Sedge	<i>Carex comosa</i>	4
Fringed (Nodding) sedge	<i>Carex crinita</i>	4
Awl Sedge	<i>Carex stipata</i>	3

Joe Pye Weed	<i>Eupatorium fistulosum</i>	3
Square Stemmed Monkey Flower	<i>Mimulus ringens</i>	4
Wool Grass	<i>Scirpus cyperinus</i>	3
Hop Sedge	<i>Carex lupulina</i>	3
Turk's Cap Lilly	<i>Lilium superbum</i>	1
Seedbox	<i>Ludwigia alternifolia</i>	1
Ditch Stonecrop	<i>Penthorum sedoides</i>	1
Soft Stem Bulrush	<i>Scirpus validus</i>	1
	Total	100

Notes:
1. All percentages refer to the pounds of pure live seed (PLS) per 100 pounds of seed mix.
2. Seeding rate is 15 pounds per acre

The use of OBL-FACW seed mixtures is not recommended for Site 5 due to the site hydrology. The wetland areas currently delineated have been determined to be groundwater and surface water fed. The depth and extent of surface water at the site varies based on the amount of rainfall, and there is frequently no surface water present. Because the rainfall, and therefore amount of surface water, cannot be predicted, the planting plan has been developed with a variety of species in an effort to allow the appropriate species to naturally establish dominance. Refer to the wetland feasibility analysis (Appendix E of the EE/CA) for further evaluation of the site and its ability to support a wetland.

The restoration area borders are approximate and will be revised based on actual extent of excavation. Seeding locations will be modified based on site conditions after the excavation has occurred; areas that exhibit more upland characteristics will receive the upland seed mix (Table 3), while those areas that exhibit wetland characteristics will receive the wetland seed mix (Table 2). As requested, the wetland seed mix (Table 2) and upland seed mix (Table 3) will be interspersed within the transitional areas, thereby allowing the plant species to compete and establish themselves naturally within the planting zones.

Table 2 has been revised to include the recommended seeding rate of 15 pounds per acre.

Comment 2 **Re: Comment #16,** The response states that a minimum of three fixed monitoring stations will be survey at representative locations within each of the planting zones. Please include information justifying the use of only 3 plots. It would be more appropriate to select random plots so that monitoring is not biased. In addition to 85 percent coverage, the species within each plot should be identified and recorded.

The response also states that trees and shrubs will be monitored to determine survival percentages within Zones B and C. Specific success criteria relative to this metric should be developed to determine if any replanting is needed.

As part of the initial maintenance at the site, some sort of signage, fencing or barriers should be placed around the perimeter of the site to prevent the site from being mowed.

Response

The verbiage regarding the 3 plots has been removed, and random plots will be selected as recommended. In order to monitor the success or failure of the plantings, zones A through C will be monitored during the annual monitoring event to ensure that sufficient vegetative coverage survived to provide permanent erosion and sediment control in each planting area. The planting plan has been developed to attempt to create a varied habitat at the site, but specific species that will survive and/or thrive cannot be predicted due to the complex and varied hydrology of the site. The planting plan has been developed knowing that not all of the species will survive, but that appropriate species will naturally gain dominance over time. There is no specific regulatory requirement as to what vegetation must survive. If a majority of the plants do not survive, the reason for the mortality (storm damage, overgrazing, drought, etc.) will be ascertained, and a replacement strategy will be discussed if needed.

Signs will be installed around the perimeter of the site preventing the area from being mowed. No fencing or barriers will be installed.